

Listing of the Claims

A listing of the entire set of pending claims is submitted herewith per 37 C.F.R. § 1.121. This listing of claims will replace all prior versions and listings of claims in the application.

1. (previously presented) A method for accessing a medium by a multi-channel device, in which the medium comprises a transmission system having at least two channels, the method comprising:
 - recognizing an idle state and a back-off state;
 - determining whether the idle state or the back-off state is underway on each channel of the at least two channels that are an object of channel grouping,
 - transmitting a message including a preamble and header (PR) and a control section on each channel determined to be either idle or having the back-off underway of the at least two channels that are an object of channel grouping to reserve the at least two channels, such that a single channel device detects the preamble and header and performs a process according to control information included in the control section.
2. (canceled)
3. (previously presented) The method of claim 1, wherein the message is one of a request-to-send (RTS), clear-to-send (CTS), or acknowledgement (ACK) type.
4. (previously presented) The method of claim 1, wherein the multi-channel device operates in compliance with IEEE 802.11 standard and a medium access control (MAC) protocol, the method further comprises repeating information belonging to the MAC protocol on the at least two channels.
5. (previously presented) The method of claim 1, wherein access to the medium takes place under IEEE 802.11 standard, the method further comprising transmitting RTS,

CTS and ACK control frames on the at least two channels, and setting network allocation vectors (NAVs), by single channel devices, based on information in the RTS/CTS control frames.

6. (previously presented) A method for accessing a medium by a multi-channel device, the medium including a transmission system having at least two channels that the multi-channel device intends to call upon for transmission, the method comprising:

- scanning, by the multi-channel device, the at least two channels to be called upon for transmission,

- recognizing an idle state and a back-off state;

- determining whether the idle state or the back-off state is underway on a single one of the scanned channels;

- blocking the single channel determined to be one of either idle or having the back-off underway to other devices by the multi-channel device by transmitting a message including a preamble and header (PR) and a control section, such that a single channel device detects the preamble and header and performs a process according to control information included in the control section,

- further scanning the other channels to be called upon for transmission and blocking or reserving the other channels on determining that the channel concerned is one of either idle or that a back-off is underway by transmitting another message on that channel concerned.

7. (previously presented) The method of claim 6, further comprising:

- blocking the channel by the multi-channel device and a receiving device, each of the devices emitting the message.

8. (previously presented) The method of claim 7, wherein the message is implemented in the form of RTS and CTS frames, the method further comprising:

- transmitting an RTS frame on a free channel by the multi-channel device, so that devices in the area surrounding the multi-channel device that is transmitting will

set their network allocation vectors (NAVs), and

transmitting a CTS frame on the free channel by the receiving device, so that stations in the area surrounding the receiving station will set their NAVs.

9. (previously presented) The method of claim 7, further comprising transmitting with channel grouping, by the multi-channel device, on all channels that it has previously blocked.

10. (previously presented) The method of claim 6, further comprising blocking a channel by starting the transmission by the multi-channel station on the single channel, wherein the transmission can be made with or without an RTS-CTS mechanism.

11. (previously presented) A method for accessing a medium by a multi-channel device, the medium comprises a transmission system having at least two channels that the multi-channel device intends to call upon for transmission, wherein a message to be transmitted on the medium comprises a preamble and a header (PR) followed by at least one of a control section or data section, the method comprising:

scanning the at least two channels to be called upon for transmission,
recognizing an idle state and a back-off state;

determining whether the idle state or the back-off state is underway on each channel of the at least two channels to be called upon for transmission,

repeating the preamble and header (PR) of the message on all channels to be called upon for transmission that are determined to be either idle or having a back-off underway, and

reserving or blocking, by a third device independent of a transmitter and receiver of the message, the channels in the channel group for the multi-channel device that intends to transmit, such that a single channel device detects the preamble and header and performs a waiting process.

12. (previously presented) The method of claim 11, further comprising:
coordinating, by the third device, access to the medium for a plurality of channels.

13. (previously presented) The method of claim 11, wherein in the event of individual channels in the channel group not becoming free simultaneously, the third device causes, alternatively,
blocking one channel or individual channels until such time as all the channels in the channel group have become free, or
assigning a channel that has become free immediately to the multi-channel device that intends to transmit.

14. (previously presented) The method of claim 11, wherein the third device is a hybrid coordinator or point coordinator, the method performing the medium access under standard IEEE 802.11.

15. (previously presented) The method of claim 14, further comprising:
transmitting, by the point coordinator or hybrid coordinator, beacons in parallel on all the channels.

16. (previously presented) The method of claim 1, further comprising:
employing Standard Universal Mobile Telecommunication System (UMTS) as the transmission system.

17. (previously presented) A multi-channel device for accessing a medium, the medium comprises a transmission system having at least two channels, the multi-channel device performing the method of claim 1 for accessing the medium.

18. (previously presented) A wireless network comprising a transmission system having at least two channels and at least one multi-channel device as claimed in claim 17.

19. (previously presented) The method as claimed in claim 1, wherein the preamble and header (PR) are repeated in parallel on the at least two channels.